

**EPA Comments on the Draft Phase I RFI/RI
Workplan for OU 10, Other Outside Closures**

General Comments

Overall, several shortcomings exist within this workplan. These shortcomings are: 1) lack of coordination with the Interagency Agreement (IAG); 2) inadequate Data Needs and Data Quality Objectives; 3) inadequate Field Sampling Plan (FSP); and 4) inadequate Baseline Risk Assessment (BRA).

The IAG describes the process for closure of Interim Status Closure Units external to buildings. The closure of these units must be conducted in two phases. Phase I must focus on the characterization of sources and soils of contamination and Phase II will address investigation of surface water, groundwater and biota. However, this workplan proposes installation of groundwater monitoring wells for each IHSS during phase I. This type of comprehensive effort for groundwater investigation is generally conducted during Phase II field investigations. EPA suggests that the workplan focus on correct placement of boreholes to characterize the sources or provide an explanation of why these wells are necessary. Additionally, the workplan could contain the contingency to convert some boreholes into monitoring wells. This would provide preliminary information on groundwater flow and groundwater contamination which could be used to design a reliable groundwater monitoring program during phase II field investigations.

Data Needs and Data Quality Objectives presented in this workplan were generically developed for all the IHSSs. This yields inadequate or inappropriate Data Needs and Data Quality Objectives for some IHSSs, since they vary widely in nature, past operation and waste handling. In addition, some IHSSs have been previously investigated and may require less extensive characterization efforts than those which have not. EPA suggests that Data Needs and Data Quality Objectives be developed on an IHSS-specific basis. In this manner, the FSP can be developed to characterize each IHSS to the greatest extent possible.

Overall, the Field Sampling Plan (FSP) presented in this workplan is inadequate to fully characterize the sources of contamination and soils for some IHSSs. This is in part due to the FSP not accounting for differences in the nature of the sites and the level of information available. In addition, the FSP states that the number and location of the boreholes needed for each IHSS can not be determined until soil surface samples and other screening surveys are complete. Therefore, a Technical Memoranda specifying the number and location of boreholes must be submitted for EPA and CDH approval when this information is available. It is unclear how the data is apparently inadequate to define the number and placement of boreholes yet is adequate to define the completion of boreholes as wells. Our technical concerns on the FSP for particular IHSSs are described in the

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specific comments which follow.

The Human Health Risk Assessment (HHRA) presented in this workplan consists of generic guidance to be followed when evaluating potential human risks associated with a given site. Site-specific conditions are not discussed in detail. The HHRA needs to be conducted on an IHSS specific basis. The rationale for this is that the IHSSs addressed under this OU differ in nature, physical setting and contamination.

The Environmental Evaluation (EE) portion of this workplan needs to be changed according to the discussions in the RFP Risk Assessment Technical Working Group meeting held on February 21, 1992.

In addition, this workplan needs to explain how the risk assessment and the phase I/phase II scheme set up in the IAG fit together. While all field activities should be designed and conducted to support completion of a risk assessment and environmental evaluation, this phase I effort is restricted to source definition in support of closure. The information obtained will be utilized to define the risk associated with this OU, but may not be sufficient to conclude that task nor to conduct environmental evaluations. Some exposure pathways may not be ready for full evaluation until after phase II when characterization information on other transport media such as groundwater, surface water, air and biota is gathered.

Specific Comments

Executive Summary. This Executive Summary mentions that the first step of this Phase I RFI/RI field program consists of the installation of groundwater monitoring wells. This is inconsistent with the IAG which establishes that phase I field investigations must focus only on the characterization of sources and soil contamination and that phase II field investigations would address groundwater, surface water and biota. This discrepancy needs to be resolved.

Section 2.1.2.1, Location and History, page 2-15. The text states that 12,900 gallons of material were removed from tank No. 4. Where was this material disposed of?

How was it determined that tank 4 has a hole on the top? Was the tank physically observed? Is excavation of soils needed?

The text states that a transfer pipe near tank 4 was cracked. The location of this transfer pipe needs to be specified.

Section 2.1.2.4, Nature and Extent of Contamination, page 2-19. Table 2-1 needs to show that 1,1,1, trichloroethane was also found to be present.

Section 2.1.3.1, Location and History, page 2-23. This section mentions that tanks 1,2,4,5, and 6 may be shipped off site for disposal as nonradioactive waste. What about tank 3? Does tank 3 contains radioactive waste? This needs to be explained.

Section 2.1.3.2, Previous Investigations, page 2-26. Are the analytical results presented in this section composited or do they represent ranges of concentration for all the tanks? This needs to be explained.

Was tank number 2 sampled? This section needs to provide analytical composition of the material contained in tank 2.

Table 4.1, page 4-8. This table includes investigation of groundwater as part of the objectives of this Phase I field investigations. This is inconsistent with the IAG. Groundwater is not considered a source of contamination. The motivation behind the desire to sample groundwater needs to be explained and this table needs to be corrected to include the defined objectives.

Section 4.2.5, Evaluate sampling/Analysis Options, page 4-14. Five activities are mentioned to be performed during the Phase I field program. The first activity mentioned is the installation and sampling of monitoring wells. This activity should be explained in light of the requirements to characterize the source.

Section 5.3, Task 3 - Field Investigation, page 5-3. This section needs to state that the data to be gathered during phase I field investigations would be used to support the phase I HHRA and the phase I EEs. In addition, this section needs to mention the different types of activities which are to be conducted during this phase I field investigation.

Section 5.5, Task 5 - Data Validation, page 5-4. This section needs to state that the results obtained during this phase I field investigation will be used in delineating the requirements for the phase II RFI/RI workplans for determining the impact of each IHSS on surface water, groundwater, air, the environment, and biota, as well as the potential contaminant migration pathways at OU 10.

Section 5.5.2, Source Characterization, page 5-5. The text should state that analytical data from unconsolidated material samples and surficial soils will be used to: 1) characterize the nature of source contaminants; 2) characterize the lateral and vertical extent of source contaminants; 3) evaluate on-site contaminant concentrations; and 4) quantify the volume of source material.

Section 5.6, Task 6 - Baseline Risk Assessment, page 5-5. Although, for Interim Closure Units external to buildings the closure will be administered as an Interim Measure/Interim

remedial action (IM/IRA), it should be recognized that in general the Baseline Risk Assessment is not the only decisive factor for conducting IM/IRAs. IM/IRAs activities for a site can be justified by other reasons such as the necessity to stop continuing migration of contaminants from a highly contaminated area to a less contaminated area or for closure of the unit.

Section 7.2, Background and FSP Rationale, page 7-3. This FSP outlines a four-step sampling approach. The first step mentioned consists of the installation of additional monitoring wells near IHSSs. It is a good idea to gather preliminary information on groundwater during phase I field activities in order to design a better FSP during phase II field investigations. However, it appears that the primary objective of this phase I field investigation is to study groundwater flow and to characterize groundwater contamination for each IHSS. The four-step sampling approach needs to emphasize sources and soils characterization as the primary objectives for this phase I field investigations.

This section needs to explain the rationale for installing lysimeters and tensiometers only at IHSS 170 and 176. Vadose zone monitoring must be performed for all IHSSs.

Section 7.3.1, Radioactive Liquid Waste Storage Tanks (IHSSs 124.1, 124.2, 124.3). Surface soil sampling and radiological survey results may not provide reliable information on past tank releases or leakage. Therefore, surface soil sampling and radiological survey results must not be used as the sole screening technique for determining the number and the location of boreholes. Soil gas survey should also be conducted to detect tank releases, depending on the type of material historically stored in the tanks.

In order to characterize the extent of soils contamination, boreholes should be drilled around the tanks down to the water table. In addition, locations where releases are most likely to have occurred include tank fittings and pipe connections. These locations must be given special attention and should be considered when defining soil samples locations.

This FSP needs to specify the number and depth of each sample taken from each borehole for VOCs analysis. In addition, this FSP must include the contingency for composited samples for all analysis but VOCs and must specify the interval of such samples.

EPA recommends including a contingency for converting some of the boreholes into monitoring wells.

This section needs to reference the sections describing the Standard Operating Procedures (SOPs) for all of the proposed field activities.

Section 7.3.2, Oil Leak (IHSS 129), page 7-11. Soil surface

samples must also be taken on areas where dark oil stains are observed and where previous releases or leaks occurred. This will help to minimize the possibility of missing a contaminated area.

The text states that one boring is to be drilled for this IHSS. One boring is not sufficient to characterize the extent of contamination of this IHSS. The number of boreholes required to characterize this IHSS to the appropriate extent should be reevaluated. Information such as nature, physical setting, size and operational history (leaks, releases, previous sampling results) of this IHSS, as well as surface soil sample results must be considered in determining the number and location of the boreholes.

Section 7.3.3, P.U&D. Storage Yard - Waste Spills (IHSS 170), page 7-14. This FSP needs to specify the number of soil samples taken at each borehole. In addition, it must specify the number and sampling depth interval of soils samples to be used for VOCs analysis.

This FSP needs to explain if the soil samples for analysis of TAL analytes, radionuclides, TCL and TPH are going to be composited. If this is the case the FSP must specify the depth interval at which these soil samples are to be taken.

This FSP states that three wells will be installed upgradient of the site. EPA recommends waiting until the number and location of boreholes is determined, then some boreholes can be selected to be converted into monitoring wells. This will help to minimize construction of unnecessary monitoring wells.

This FSP needs to include a vadose zone monitoring program. Lysimeters and tensiometers must be installed.

Section 7.3.4, P.U &D. Container Storage Facilities (IHSS 174), page 7-16. The number and depth interval of the samples to be taken at each borehole for VOCs analysis needs to be specified in this FSP.

Page 7-21. Where is it?

Section 7.3.8, Building 334 Cargo Container Area (IHSS 181), page 7-24. This IHSS was known to be used for storage of drums containing waste machine oils, solvents, machine coolants and, possibly, low-level radioactive wastes. It seems that soil gas survey would be appropriate for this IHSS. However, this FSP states that soil gas survey will not be conducted for this IHSS. EPA suggests reevaluating the need for soil gas survey or including a rationale for not conducting a soil gas survey.

Section 7.3.9, Building 444/453 Drum Storage Area (IHSS 182), page 7-27. This IHSS consists of an area approximately 1,700 ft square. Only six surface soil samples are proposed for this

IHSS. These surface soil samples may not be sufficient to characterize the whole area. EPA suggests reevaluating the number of soil samples needed for this IHSS and including a statistical rationale for the surface soil samples to be taken.

This FSP states that no soil gas survey will be conducted for this IHSS. This FSP needs to present a basis for not conducting a soil gas survey. Drums containing oils and solvents are known to have been stored here in the past. It seems like soil gas survey would be appropriate for this IHSS.

Section 7.3.11, Inactive D-836 Hazardous Waste Tank (IHSS 206), page 7-31. This FSP mentions that deep borings will be drilled based on surficial soil analytical results and other screening techniques. This FSP needs to specify those screening techniques employed at this IHSS.

Section 7.3.12, Inactive Building 444 Acid Dumpsters (IHSS 207), page 7-31. See comment for IHSS 206.

Section 7.3.14, Unit 16 Building 980 Cargo container (IHSS 210), page 7-36. The proposed soil gas sampling point intervals of 20 to 25 ft in the east-west direction seems inadequate for this IHSS. A closer interval should be used (approximately 10 ft) because of the small dimensions of the IHSS (30 ft by 30 ft).

Section 7.3.15, Unit 15, 904 Pad pondcrete Storage (IHSS 213), page 7-38. This FSP states that the surface soil sampling grid was determined using the methods outlined in the beginning of Section 7.3. However it never specified what sampling grid is going to be used. This FSP needs to specify what sampling grid is going to be used.

Section 7.3.16, Unit 25, 750 Pad Pondcrete and Saltcrete Storage (IHSS 214). This FSP states that the surface soil sampling grid to be used for this IHSS is 80 ft. This sampling grid appears to be too big. The FSP needs to include a rationale for using an 80 ft sampling grid. EPA recommends using a smaller sampling grid in order to minimize the possibility of missing a contaminated area. This should be statistically based.